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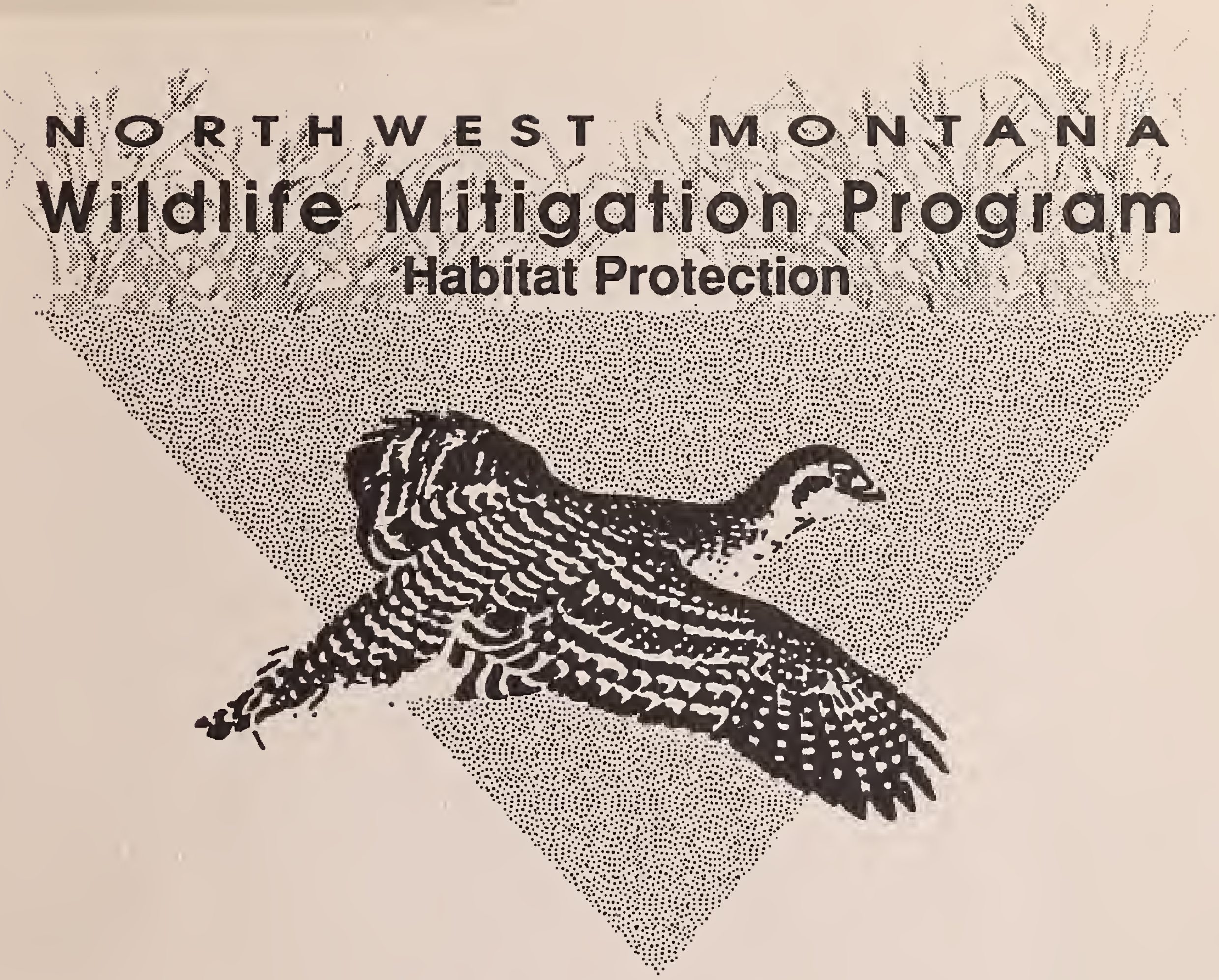
NORTHWEST MONTANA
Wildlife Mitigation Program
Habitat Protection



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Annual Report - FY 1991

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NORTHWEST MONTANA WILDLIFE MITIGATION PROGRAM

HABITAT PROTECTION

Annual Report

FY 1991

January 17, 1992

Prepared By

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Project Biologist

Montana Department of Fish, Wildlife and Parks
Kalispell, MT

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INTRODUCTION

Mitigation Program Development

Under the Northwest Power Act, the Montana Department of Fish, Wildlife and Parks (MDFWP) has been involved in mitigating the impacts of hydroelectric facilities in northwest Montana since 1982. At that time, Bonneville Power Administration (BPA) awarded contracts to this agency to determine the effects of Libby and Hungry Horse dams on wildlife and wildlife habitat and to develop mitigation plans. The process included extensive literature review and consultation with land and wildlife management agencies, other interest groups and the general public. The ultimate goal was to develop a mitigation program that adequately addressed the recognized losses and impacts to wildlife species, considered the role of other agencies and their programs, and received general support of the ratepayers responsible for paying the bill.

The mitigation program was developed following the process designated by the Northwest Power Planning Council. The Council was established by Congress in 1980 to provide long range energy planning and conservation and to develop a program to protect, mitigate and enhance fish and wildlife resources affected by the federal hydroelectric facilities in the Columbia River Basin system. The mitigation program included the following steps:

1. Loss assessment and status report on previous mitigation efforts.

   The loss statements for Libby and Hungry Horse were developed by quantifying the affects of habitat loss on target wildlife species. A list of target species was developed that recognized and addressed those species most affected by the dams. It also emphasized species of regional importance and particularly those listed as threatened or endangered or of special concern. Loss statements were completed in 1984. Public participation included numerous coordination meetings with agencies and landowners as well as several public meetings to solicit input on target species and impacts.

2. Mitigation Plans.

   Mitigation plans were developed that identified alternatives to mitigate the wildlife and habitat losses. These alternatives emphasized projects or activities which could benefit the greatest number of target species. Alternatives which encouraged maintenance, enhancement or creation of structural habitat diversity and therefore, wildlife diversity were preferred.

Public involvement included more coordination meetings and consultations. In addition, several public meetings were held to solicit input on the proposed mitigation alternatives. Mitigation plans were completed in 1985.

3. Amendment to the Fish and Wildlife Program.

   In order to proceed with mitigation alternatives, the plans had to be approved by the Northwest Power Planning Council and included in the Fish and Wildlife Program developed by the Power Planning Council. Negotiation process with the Army Corps of Engineers, PNUCC, Bonneville Power Administration, Council staff, U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Reclamation, The Nature Conservancy, and Glacier National Park, resulted in a modified mitigation package for Libby and Hungry Horse being submitted to the Council. In 1987, the Council amended into its program those measures agreed to by the negotiators that were biologically sound, reasonable, reflected the current status of the species needs and were consistent with the Departments long range wildlife management plans.

4. Advanced Design.

   The advanced design phase of the mitigation program involved short-term (1-3 year) projects under contract with Bonneville Power Administration, to develop the process to implement projects. In some cases it was necessary to identify potential projects, develop agreements with agencies, and complete pilot projects. The advanced design phase was initiated in 1987. For the habitat protection projects, technical and advisory committees were established and pilot projects completed (Wood 1990).

5. Trust Settlement.

   The Power Planning Council, in its Fish and Wildlife Program, directed BPA to pursue a Trust Fund settlement agreement with Montana and other affected parties. Negotiations between BPA and MDFWP began in March 1988 and culminated with the signing of the agreement in December 1988. The settlement agreement accepted the losses identified in the Impact and Loss Assessments and also accepted the mitigation measures identified in the Fish and Wildlife Program.

6. Implementation Phase.

   With the Trust Fund in place, the Department now moves into the final step of implementing the actions outlined in the Fish and Wildlife Program.

The Habitat Protection Project

The mitigation plans for both Hungry Horse and Libby dams recognized that mitigation for some wildlife species could not be adequately achieved by enhancing habitat on National Forest or other public lands adjacent to the reservoirs. Habitat enhancement actions for certain species would not be effective because: 1) specific tools or strategies to enhance habitat for some species are not known; and, 2) enhancing existing habitat would result, in some cases, in only marginal improvements for the affected species and would require approximately three times the acreage to achieve the desired mitigation objective.

Therefore, for some species the highest priority management direction to maintain or improve populations involves protecting threatened critical habitat which is typically found on private lands. Habitat protection includes fee-title acquisition, conservation easements, or long term agreements to secure critical wildlife habitat.

Specific program goals, as outlined in the Fish and Wildlife Program, include:

- Protect and/or enhance 4,564 acres of prime wetland habitat for waterfowl and other sensitive wetland species.
- Protect 2,462 acres of critical habitat for Columbian sharp-tailed grouse.
- Protect 8,590 acres of riparian habitat for grizzly and black bears.
- Protect 11,500 acres of terrestrial furbearer habitat, including old growth forests, through cooperative agreements with state, federal, and private landowners.

Project Objectives

This report summarizes activities during the period January 1, 1991 through June 30, 1991. The primary project objectives during this period were to:

1. Obtain specific information necessary to develop the mitigation program for Columbian sharp-tailed grouse.

2. Continue efforts necessary to develop, refine, and implement the mitigation programs for waterfowl/wetlands and grizzly/ black bears.

3. Determine the opportunity and appropriate strategies for protecting terrestrial furbearer habitat by lease or management agreements on state, federal and private lands.

4. Continue to develop other habitat protection activities as required.

COLUMBIAN SHARP-TAILED GROUSE PROGRAM

Program Introduction

By the time the mitigation plans were developed, the Tobacco Plains Columbian grouse population had seriously declined (Manley and Wood 1990). Only 4 males were observed during lek surveys in 1987. We felt it was necessary to determine if it was possible to maintain or establish a viable population of sharptails on the Tobacco Plains prior to implementing the mitigation objective to protect 2,562 acres of grouse habitat. A short term research project completed in 1990 reviewed historical data, augmentation results, identified key winter habitats and discussed reasons for decline of the population (Manley and Wood 1990). This report also documented the need to identify essential nesting and brood-rearing habitat to focus protection efforts during implementation. To address this need a 2 year Master's research project was initiated in March 1990 under contract with Montana State University.

Methods

A multi-entity Columbian Sharp-tailed Grouse Technical Committee was established to coordinate the graduate student research project and the overall grouse mitigation program. Both short and long term objectives are developed in consultation with this committee.

Limited field work was conducted to gather information on over-winter survival of grouse, winter habitat use, and lek attendance. Trapping grouse during spring was conducted to obtain marked females for nesting and brood-rearing habitat studies.

Radio-equipped grouse were located during fixed wing aerial surveys conducted at least twice monthly. Additional locations were obtained during numerous ground surveys completed by Lewis Young, Kootenai National Forest. During some of the ground radio tracking individual grouse were flushed to determine their status.

Additional information on winter habitat use was obtained during one ground survey conducted in February. Two separate transects were walked by observers in an attempt to locate marked and unmarked grouse in winter habitat. Search efforts focused on the Cate and O'Mea Ranch and the Quirk Ranch located east of Highway 93 where previous winter observations of grouse had occurred. All grouse were recorded as well as evidence of roosting sites.

Dancing ground surveys were conducted during early morning between March 9 and April 21 to obtain counts of grouse attending the dancing ground and to record observed marked grouse (colored leg bands). Taped recordings of grouse vocalizations were used on the dancing ground between March 16 and 31 and during releases in an attempt to hold the grouse in the area.

Three separate trapping efforts were conducted during this report period to radio-equip both male and female grouse and to augment the population. One trapping effort was conducted in Idaho to obtain females for nesting and brood rearing habitat studies. This effort was coordinated by Montana State University and methods are reported by the graduate student in the attached document (Appendix A).

A second trapping effort was conducted during May on the Douglas Lake Cattle Ranch located south of Kamloops, British Columbia, Canada. This effort was coordinated by Montana Nature Conservancy (Bernie Hall), the British Columbia Ministry of the Environment, BC (Doug Jury), and MDFWP. Two types of walk-in wing traps were used to capture grouse. One trap involved encircling the entire dancing ground with 3 ft high netting. Four walk-in catch pens were located around the net circle. Grouse were capture as they walked onto the dancing ground center. The second walk-in trap was used on one dancing ground. This trap consisted of wire wings in the shape of a "W" with catch pens located at the apex of the wings (Toepfer 1988).

A third trapping effort occurred on the Tobacco Plains dancing ground in order to radio-equip "resident" grouse for habitat use comparisons with transplanted grouse. Walk-in wing traps (Toepfer 1988) were used between May 17-19.

In June, 2 attempts were made to recapture grouse in order to replace 3 radio collars. Recapture efforts occurred at night. Two persons were required. One person located the grouse by radio tracking and holding a spotlight (high power flashlight). The second person captured the grouse with a large, long handled net. During the second recapture attempt, we modified our methods by including background noise supplied by a small portable tape player to mask the sounds of walking.

Results

Technical Committee Recommendations

The Columbian sharp-tailed grouse technical committee met in February to discuss results from the previous field season and to develop short and long term objectives for the grouse program. The following observations and recommendations were made:

- Survival of grouse transplanted in spring through winter was better than expected; 6 out of 10 radio-equipped grouse were alive in January.

- Additional females should be captured to augment the nesting and brood-rearing data.

- Radio locations during summer 1990 documented the importance of the grasslands surrounding the lek for nesting and brood-rearing. Mitigation funds should be used to protect this area in cooperation with The Nature Conservancy.

- Management efforts should focus on improving nesting success.

- Attempts should be made to establish a second lek, if that doesn't occur naturally, after the primary lek stabilizes with 15-20 males.

Radio Locations and Winter Habitat Use

Ten aerial surveys and numerous ground searches were conducted during the period January 1 through June 30, 1991. A total of 14 grouse, including 7 females and 7 males were relocated 165 times. Of these, 8 grouse were radio equipped in 1990 and 6 were radio equipped in 1991. The current status of these grouse is reported in Appendix A. By the end of June only two active radio collars remained (#049 and #356); these radio collars were replaced with new radios during night captures.

Ten of the 14 radio collared grouse are known to have died; evidence of predation was documented for 2 of these mortalities. Owl pellets were found with feathers from #148 and coyote scats and tracks were found with #478. Evidence was inconclusive for the other mortalities. Generally only piles of feathers were found with the radio collar, however, we suspect that these grouse probably died as a result of predation. The fate of 2 grouse is unknown since the collars were retrieved with neckbands broken and no other evidence of the grouses' fates.

Grouse radio-equipped in 1990 provided data on winter habitat use and dates of lek attendance. Two grouse remained on the Tobacco Plains during winter and were found in kettles (natural depressions) within 1/2 mile of the lek. These kettles supported shrub communities including rose and snowberry. Three grouse wintered on the Quirk Ranch 2-3 miles east of the lek and used grassy hillsides, aspen stands, and deciduous tree/shrub draws in the foothills. Two grouse moved substantial distances during winter to British Columbia north of the Tobacco Plains. During January one of those grouse occupied an isolated shrub steppe community (bitterbrush, sagebrush, native grass) approximately 8 air miles from the dancing ground. The second grouse also used an isolated shrub steppe community approximately 20 miles north of the lek.

Five grouse were observed during one pedestrian survery of winter habitat. Four unmarked birds were observed in shrub communities on the Cate and O'Mea Ranch (Figure 1). One radio-equipped grouse (#108) was found on a grassy hilltop on the north boundary of the Quirk Ranch. No other grouse were observed; however, numerous roosting sites in both shrub and grass communities were found. Although no flocks were observed during the 1

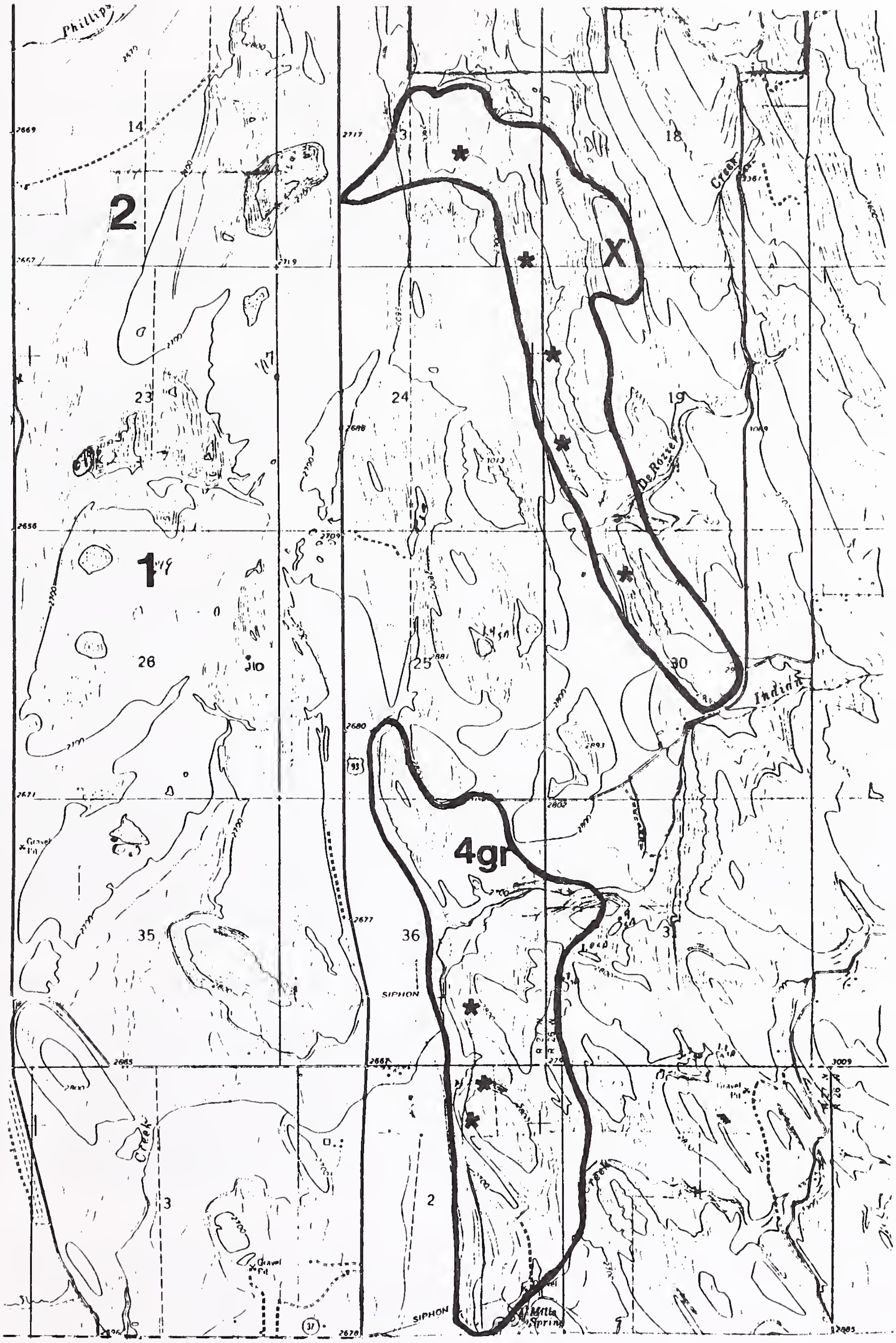

Figure 1. Location of primary dancing ground (1) and new dancing ground (2) and the ground search area for wintering grouse habitat. (*) Roost sites and (X) location of radio-equipped grouse #108.

day survey, the ranch manager reported observing a group of 20 grouse in the aspen stand above ranch headquarters (L. Driggs, pers. commun.)

Most grouse returned to the vicinity of the dancing ground by mid February. By mid March grouse were observed attending the dancing ground. Radio locations during March revealed a second dancing ground ("north lek") located on private land in section 14 (Figure 1).

Dancing Ground Surveys

Several attempts to count grouse attending the dancing grounds and identify transplanted grouse by their leg bands occurred during March and April. The highest total count for the primary lek (section 26) was made on April 21 and included a minimum of 12 males and 5 females. Dense vegetation cover precluded observation of leg bands on many of the grouse but the presence of several transplanted grouse were documented. The highest total count for the new dancing ground ("north lek") was made on April 5 and included a minimum of 10 males and 2 females. One copulation was observed on this date. Radio and leg band observations indicated that 2 birds transplanted in 1991 and 1 from 1990 were attending the north dancing ground.

Trapping and Transplants

Nine grouse were captured for transplanting during separate trapping efforts in Idaho (Appendix A) and British Columbia. Four females and two males were captured in Idaho, fitted with radio collars and released on the Tobacco Plains on April 23 (1 female) and April 29 (3 females and 2 males). A total of 9 male grouse were captured in 24 trap days (between April 3 and April 19) in Kamloops. Six of these grouse were leg banded and released on site. The remaining three male grouse were banded but not equipped with radios and released on the Tobacco Plains on April 8.

Although we were attempting to catch females on the Kamloops sites, few hens were observed during the trapping period and no hens were captured. Late winter snows and below average temperatures may have delayed attendance of the hens on the dancing grounds. In general, fewer grouse were observed and less activity occurred than during trapping efforts in previous years. Three male grouse were transplanted to Eureka and released on April 8 with legbands but not radios.

Grouse captured in Idaho and released on the Tobacco Plains provided information about movements after release, lek fidelity and mortality. All 6 radio-equipped grouse remained in the general vicinity of the Tobacco Plains after release until the collars were retrieved. Five grouse remained within .25 miles of the lek during the first 4 days post release. After 4-5 days greater movements were documented. At least 3 grouse traveled approximately 1.5 miles to the new lek area. One hen traveled 3.5 miles north before returning to the primary dancing ground area. All six grouse captured in Idahowere known to be dead by 40 days post release.

Other Observations

Independent observations of grouse by local residents were recorded to obtain information on possible new areas used by grouse and to focus search efforts. Four sightings were recorded and included observations of between 2 to 20 grouse (on file Region 1 headquarters).

One hen found dead near the Kootenai National Forest office in Eureka on June 2 was examined by Dr. Dave Worley of the Montana State University Veterinary Research Lab. No obvious cause of death was found and the internal exam appeared normal. A brood patch was evident on the hen.

Habitat Protection

The Montana office of The Nature Conservancy had proposed a cooperative project in September 1990 to acquire 400 acres of grassland habitat including the primary dancing ground. This property was acquired by The Nature Conservancy in October 1991. Their request was to share acquisition costs on this property. During the Grouse Technical Committee meeting held in February, the committee members again recommended proceeding with this project. The Habitat Protection Advisory Committee met in March and recommended proceeding with this project if a policy on acquisition of lands owned by other agencies or conservation organizations was set. The WMAC (Wildlife Mitigation Advisory Committee) participated in a field review of the project area April. During the meeting held on the following day, committee members recommended tabling any action on this project until a management plan is completed for the Tobacco Plains.

Recommendations for Future Actions

- Field work will continue during the summer months by the graduate student. The final report is due June 1992.

- A sharp-tailed grouse management plan will be completed September 1991.

WATERFOWL/WETLANDS PROGRAM

Program Introduction

Hungry Horse and Libby dams together inundated approximately 15,758 acres of waterfowl habitat including ponds, marshes, islands, and riparian tree/shrub communities. The actual mitigation objective for both hydroelectric facilities was adjusted to protection of 4,564 acres of prime waterfowl habitat based on conversion of low to medium quality habitat losses to prime wetland habitat. There were 2 reasons for this approach: 1) mitigation could actually be achieved on fewer acres, and 2) the objective recognized the national concern for conservation of wetland habitats and productive waterfowl areas.

The Flathead Valley was initially targeted by the mitigation plans as the area to focus wetland mitigation. This area was selected because of the numerous wetlands, rivers, and potholes already important to waterfowl in the basin. In addition, wetlands in this area are threatened because of extensive human population and subdivision growth. Subdivision impacts on wetlands and waterfowl include the loss of upland nesting cover, drainage, recreational disturbances, degraded water quality from septic systems, and the introduction of domestic animals. Some highly productive wetlands in this area are being drained for irrigation or for planting crops.

Mitigation targets could be achieved by protecting prime wetland habitat in fee or with conservation easements. Habitat protected by acquisition or easement would be credited on a 1 for 1 basis. Enhancement actions on public lands would be credited on a 3 for 1 basis (3 acres enhanced replaces 1 acre lost).

Methods

Waterfowl/wetland projects to be considered for action must fall within criteria developed by the Waterfowl/Wetlands Technical Committee (Wood 1990). Committee members provide input on biological merits and appropriateness of mitigation actions. Proposed projects are also presented to the Habitat Protection Advisory Committee to identify other issues and concerns.

Results

To date no habitat protection for waterfowl or wetlands has been completed. A previously proposed project (Ashley Creek development) was stopped due to excessive development costs. Six waterfowl/wetland projects were reviewed during this report period (Appendix B). Two projects are in Lake County, 3 in Flathead County, and 1 broad-based project covers sites in Lincoln County. Three projects (Bauer, Anderson, Marion) involve acquisition of private lands and enhancement or restoration of degraded habitat. One project (Smith Lake) involves acquisition of existing upland nesting habitat in private ownership and threatened with potential development. The McWennegar Slough project involves enhancing existing productive wetland areas by raising water levels. The last project involves several cooperative projects with the Kootenai National Forest to develop open water areas in wet meadows on public lands.

The Habitat Protection Advisory Committee met and recommended proceeding with wetland projects and stressed the need to complete some activity during this year. Members recommended proceeding with the Bauer project as the 1st priority, Anderson as the 2nd priority, and Marion as the 3rd priority.

All projects were presented to the Wildlife Mitigation Advisory Committee in April to obtain input. Projects were discussed at length and the following issues were raised:

- The economic impacts to local farm economics should be addressed for all acquisitions.
- Projects were located too distant from the areas of impact (Hungry Horse and Libby dam).
- Need to further explore the possibilities of land exchanges with public and private lands.
- Enhancement of public lands adjacent to impact areas should be evaluated.

Recommendation for Future Actions

Based on comments received from both advisory committees, it is recommended that we proceed with the Bauer project by addressing the economic issues related to this one acquisition. The feasibility of completing an enhancement project on the Marion site should be addressed by contracting for soils and hydrology studies.

GRIZZLY BEAR/BLACK BEAR PROGRAM

No activities were completed on this program during the report period.

TERRESTRIAL FURBEARER PROGRAM

No activities were completed on this program during the report period.

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APPENDIX A

Habitat Selection and Survival of Transplanted Columbian Sharp-tailed Grouse (*Tympanuchus phasianellas columbianus*) in the Tobacco Plain, Montana

Progress Report 1991

Habitat Selection and Survival of Transplanted Columbian Sharp-tailed Grouse *(Tympanuchus phasianellus columbianus)* in the Tobacco Plains, Montana.

(Michael G. Cope)

Since the beginning of this project, the grouse population has changed dramatically. In the spring of 1987, there was only three male birds left in the valley. Through transplants in the following three years, the population had grown to eight males and two known females. The 1990 transplant brought in five females and eleven males. Dancing ground surveys were conducted during the spring of 1991, resulting in the discovery of a new lek, located one and a half miles north of the original dancing ground. After both grounds had been surveyed, there was a total estimated grouse population of 30 birds (22 males and at least 8 known females- only one of which was from the 1990 transplant). In interest of the grouse population (as well as native flora), the Nature Conservancy purchased 680 acres of native paluse prairie and turned it into the Dancing Prairie Preserve.

In April, 1991, a technician from the Montana Department of Fish Wildlife and Parks and Bernie Hall of the Nature Conservancy made a trapping effort at the Douglas Lake Ranch, British Columbia. It was originally planned to catch females, but resulted in the capture of three male birds that were then released on the Tobacco Plains. These grouse were not radioed before release. Subsequently, there will be no data on survival until spring dancing ground surveys are conducted in 1992.

Also in the month of April, Dr. Robert Eng (Montana State University), Bob Green (formerly of MDFWP) and myself traveled to Ashton, Idaho in order to trap six females. The habitat that this population of Columbian

Sharp-tailed grouse was occupying was much different than existed in the Tobacco Plains. It consisted of dense stands of sagebrush and bitterbrush, with very little grassland vegetation. After four weekends of trapping, we captured four females and kept two additional males. All six of these birds were equipped with radio transmitters, and released on the Tobacco Plains at the beginning of May, 1991. After being released, the birds were relocated at least once a week by Marilyn Wood (MDFWP) or Lewis Young (Biologist for USFS, Rexford Ranger District). Results of the relocations led to the recovery of all six radios within one month after release (The previous trapping location in British Columbia was native grassland, and there has been approximately a 50 percent survival rate from year to year).

The project is continuing in 1991. A second field season was started in June, and continued through August. In order to be able to acquire more relocations, birds with radio collars from the 1990 release were recaptured using a nighttime spotlighting technique previously used by Dr. Robert Eng. Having new radios allowed additional data for habitat analysis, and survival. During the summer months, the two remaining radioed birds were relocated daily during the four time periods as explained in previous reports. Along with radio relocations, additional habitat measurements were also taken during the summer.

Since August, there has been intermittent relocations collected by both Marilyn Wood and Lewis Young. During the fall and early winter, the radioed birds were seen with other grouse. Relocations ranged from the Quirk Ranch east of the Dancing Prairie Preserve to areas west of the Preserve near Moran Lake. In December, 1991, a radio from one of the two remaining grouse was recovered near Moran Lake. It was found in a stand of ponderosa pine, and avian predation is suspected. As of 12-15-91, there is one remaining radioed bird on the Tobacco Plains.

Analysis of the project will begin in January, 1992, and will be completed by May, 1992. Analysis will include: statistical analysis on the results from cover percentage tests, a detailed habitat use map that will be used to evaluate use versus availability, and analysis of population dynamics and survival.

Preliminary data shows that the area immediately surrounding the section 26 dancing ground is very important to the survival of the population. The security of this land has already been established by the Nature Conservancy. Along with this part of the valley, other portions also seem to have a significant impact on the survival of the population. These include wintering habitat along the foothills on the east edge of the valley, and the area north of section 26 that includes the new dancing ground.

Additional preliminary data deals with transplant efforts. It has been seen that the capture of females is very difficult. In order to increase effectiveness in this facet, preliminary information on dates of previous hen attendance in the area to be trapped is essential. Also, if the results of the 1991 transplant effort from Idaho are consistent, it would be advisable to take care in choosing the area that transplant birds are removed from. Due to differential survival in this study, it would seem that the habitat of the transplanted bird should approximate the release location habitat as closely as possible. Further study in this aspect of the project is needed not only for the success of the Tobacco Plains project, but other ongoing and future projects.

GROUSE STATUS

FEMALES:

#	DATE CAP.	STATUS
127	May 1990	Died in the spring of 1991, no brood, located by plane in Canada 10 miles north of Canadian border.
149	April 1990	Possibly alive, but radio was recovered in sec. 26 on the drumlin on east side of the section (had a brood of 5 as of 9-12-90,).
168	April 1990	Died on apprx. 7-3-90. Had spent time on Quirk Ranch before death.
208	May 1990	Dead, radio and feathers found southeast of the Quirk Ranch (brood of 6 as of 9-12-90,).
417	April 1990	Alive, attempted to nest in sec. 23, nest predated on 6-4-90. Found in December at the north west corner of the prairie by the border to Canada. Attempted to nest in 1991, but nest was predated. As of 6-19-91, using an area north of conservancy land.
***	April 1991	Four females were trapped near Ashton, Idaho. All radios were recovered from predated birds within one month after release.

MALES

#	DATE CAP.	STATUS
049	May 1990	Died on apprx. 12-91. Radio found near moran lake in ponderosa pine forest.
069	May 1990	Died on apprx. 7-12-90. Found radio under spike-top ponderosa pine.
089	May 1990	Died apprx. 5-4-91 and staying in section 26.
108	May 1990	Died in the spring of 1991.
356	May 1990	Alive, and staying in section 23.
229	July 1990	Died on the Sharp Tailed Prairie in Canada in spring 1991.
***	April 1991	Two males were trapped near Ashton, Idaho. Both radios were recovered from birds lost to predation within one month after release.
***	April 1991	Three males were trapped at Douglas Lake, British Columbia. These were not equipped with radio transmitters, and their fate is not known.
* *	Both of the native birds that were radioed on 4-1-90 died during May,1990.	

UPDATED TRANSPLANT DATA

Anml ID #	Sex	Lgbnd (R)	Lgbnd (L)	Capt Loc	Capt Date	Rels Loc	Rels Date	Status	Death Date
029	M	Red	Red	Lek 1	4-1-90	Lek 1	4-1-90	Dead	5-5-90
049	M	Pink	Pink	Kam	5-3-90	Lek 1	5-4-90	Dead	12-91 New #148
069	M	Pink	Pink	Kam	5-3-90	Lek 1	5-4-90	Dead	7-12-90
089	M	Pink	Pink	Kam	5-3-90	Lek 1	5-4-90	Dead	5-17-91 r
108	M	Pink	Pink	Kam	5-3-90	Lek 1	5-4-90	Dead	5-17-91 r
129	F	White	White	Kam	5-6-90	Lek 1	5-8-90	Dead	1- -91 ** 3-31-91 r
148	F	Green	Green	Idaho	4-20-91	Lek 1	4-23-91	Dead	6-2-91
149	F	White	White	Kam	5-1-90	Lek 1	5-4-90	Alive ?	Bkn nklace
168	F	White	White	Kam	5-4-90	Lek 1	5-4-90	Dead	7-3-90
188	M	Yell.	Blue	Lek 1	4-1-90	Lek 1	4-1-90	Dead	5-5-90
208	F	White	White	Kam	5-6-90	Lek 1	5-8-90	Alive ?	Bkn nklace
210	F	Green	Green	Idaho	4-28-90	Lek 1	4-29-90	Dead	6-3-91 r
229	M	Pink	Pink	Kam	7-16-90	Lek 1	7-17-90	Dead	3-31-91 r
356	M	Pink	Pink	Kam	4-18-90	Lek 1	4-20-90	Alive	New #659
377	M	Pink	Pink	Kam	4-18-90	Lek 1	4-20-90	Dead	5-13-90 r
417	F	White	White	Kam	4-18-90	Lek 1	4-20-90	Alive ?	Bkn nklace
437	F	Green	Green	Idaho	4-27-91	Lek 1	4-29-91	Dead	5-18-91
478	M	Yell.	Yell.	Idaho	4-28-91	Lek 1	4-29-91	Dead	5-4-91
498	M	Yell.	Yell.	Idaho	4-28-91	Lek 1	4-29-91	Dead	6-7-91
658	F	Green	Green	Idaho	4-27-91	Lek 1	4-29-91	Dead	6-7-91

APPENDIX B

Proposed waterfowl/wetland projects

WATERFOWL/WETLAND PROJECTS REVIEWED (FY91)

1. Bauer Project

   - Acquisition of 280 acres (Lake County) to restore drained wetlands and enhance nesting habitat.
   - Estimated cost = $126,000
   - Proposed by USFWS (cooperators as ultimate management authority).
   - Recommend pursue acquisition.

2. Anderson Project

   - Acquisition of 280 acres (Lake County) to restore drained wetlands and enhance nesting habitat.
   - Estimated cost = $155,000
   - Proposed by USFWS (cooperators as ultimate management authority).
   - Recommend USFWS continue to pursue through their easement/acquisition programs.

3. Smith Lake Project

   - Acquisition of 3 acres (Flathead County) upland habitat adjacent to existing Smith Lake WPA.
   - Estimated cost = $12,000
   - Proposed by USFWS (cooperators as ultimate management authority).
   - Recommend USFWS pursue through their easement/acquisition programs.

4. Marion (McGregor Lake Meadows) Project

   - Acquisition of 600-800 acres (Flathead County) to restore drained wetlands.
   - Estimated cost = No estimates available.
   - Proposed by USFWS (cooperators as ultimate management authority).
   - Recommend proceeding with feasibility analysis (soils and hydrology testing).

5. McWennegar Slough Project

   - Acquisition and development of 500 acres (Flathead County).
   - Estimated cost = $345,000
   - Proposed by Wetland, Inc. (private consultant).
   - Recommend not pursuing project as proposed due to costs and lack of demonstrated biological benefits.

6. Kootenai National Forest Projects

   - Various potential wetland enhancement projects proposed by Kootenai National Forest.
   - Cooperators in USFS "Challenge Cost Share" program.
   - Recommend reviewing individual projects as they are developed.